

**CLAIMS**

What is claimed is:

1. An automatic household dishwasher for washing utensils in accordance with a user selected dishwashing cycle, comprising
  - a wash tub having top, bottom, side and rear walls, with the walls collectively forming an open-faced wash chamber for receiving utensils to be washed;
  - 5 a moveably mounted door movable between an opened position for providing access to the wash chamber, and a closed position for selectively closing the open-face of the wash chamber during the dishwashing cycle; and
  - a bulk wash aid dispenser for storing a supply of wash aid greater than that needed for a single dishwashing cycle and supplying the amount of wash aid required for
  - 10 the single dishwashing cycle.
2. The automatic household dishwasher according to claim 1 wherein the bulk wash aid dispenser dispenses a variable amount of wash aid depending on the dishwashing cycle selected by the user.
3. The automatic household dishwasher according to claim 2 wherein the bulk wash aid dispenser dispenses the variable amount of wash aid in multiple charges of a predetermined amount.
4. The automatic household dishwasher according to claim 3 wherein the multiple charges are dispensed at different times throughout the dishwashing cycle.
5. The automatic household dishwasher according to claim 4 and further comprising a controller for executing the selected dishwashing cycle and controlling the dispensing of the multiple charges in response to the selected dishwashing cycle.

6. The automatic household dishwasher according to claim 5 wherein the controller comprises a user interface through which a user can select one of several dishwashing cycles.

7. The automatic household dishwasher according to claim 6 wherein the wash aid is one of a solid and liquid.

8. The automatic household dishwasher according to claim 1 wherein the bulk wash aid dispenser is mounted to an interior surface of the door.

9. The automatic household dishwasher according to claim 1 wherein the bulk wash aid dispenser dispenses multiple wash aids.

10. The automatic household dishwasher according to claim 9 wherein at least one of the multiple wash aids is one of a solid and liquid.

11. The automatic household dishwasher according to claim 10 wherein the multiple wash aids include a solid wash aid and a liquid wash aid.

12. The automatic household dishwasher according to claim 1 wherein the bulk wash aid dispenser comprises a solid wash aid chamber for storing a solid wash aid.

13. The automatic household dishwasher according to claim 12 wherein the solid wash aid chamber is keyed to receive a predetermined solid wash aid.

14. The automatic household dishwasher according to claim 13 wherein the solid wash aid chamber has an insert opening of a predetermined shape to form the keyed chamber.

15. The automatic household dishwasher according to claim 14 wherein the insert opening is one of a tri-lobe and a D-shape configuration.

16. The automatic household dishwasher according to claim 12 wherein the bulk wash aid dispenser further comprises a spray nozzle directed onto the solid wash aid chamber such that water exiting the spray nozzle dissolves the solid wash aid to effect the dispensing of the solid wash aid.

17. The automatic household dishwasher according to claim 1 wherein the bulk wash aid dispenser comprises a liquid wash aid area for storing a liquid wash aid.

18. The automatic household dishwasher according to claim 17 wherein the liquid wash aid area comprises a replaceable cartridge containing the liquid wash aid.

19. The automatic household dishwasher according to claim 18 wherein the liquid wash aid area comprises a pump fluidly connected to the replaceable cartridge for pumping the liquid wash aid from the replaceable cartridge into the wash chamber.

20. The automatic household dishwasher according to claim 1 wherein the bulk wash aid dispenser comprises a housing mounted to an inner surface of the door and defining a bulk wash aid storage area, and a dispenser door moveably mounted to the housing for selectively closing the bulk wash aid storage area.

21. The automatic household dishwasher according to claim 20 and further comprising a bulk wash aid carrier mounted to an inner surface of the dispenser door and defining a chamber for receiving a bulk supply of wash aid.

22. The automatic household dishwasher according to claim 21 and further comprising a spray nozzle located within the housing to direct liquid spray into the chamber to effect the dispensing of the bulk wash aid stored therein.

23. The automatic household dishwasher according to claim 21 wherein the carrier comprises an insert opening of a predetermined shape to permit the insertion of a bulk supply of wash aid having a configuration corresponding to the predetermined shape of the insert opening.

24. The automatic household dishwasher according to claim 23 wherein the insert opening is one of a tri-lobe and a D-shape configuration.

25. The automatic household dishwasher according to claim 24 wherein the bulk wash aid carrier comprises a second insert opening having a second predetermined shape.

26. The automatic household dishwasher according to claim 23 and further comprising a cartridge containing a bulk supply of liquid wash aid, with the cartridge being placed within the bulk wash aid storage area.

27. The automatic household dishwasher according to claim 26 and further comprising a pump fluidly coupled to the cartridge for dispensing the liquid wash aid from the cartridge.

28. A bulk wash aid dispenser for an automatic household dishwasher for washing utensils in accordance with a user selected dishwashing cycle, comprising:

a housing defining a bulk wash aid storage area;

5 a dispenser door moveably mounted to the housing moveable between an opened position and a closed position for selectively closing the bulk wash aid storage area; and

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a bulk wash aid carrier mounted to an inner surface of the dispenser door and defining a chamber for receiving a bulk supply of wash aid which is accessible when the dispenser door is in the open position to permit the filling of the chamber with the wash aid;

- 10 wherein the bulk wash aid dispenser stores a supply of wash aid greater than that needed for a single dishwashing cycle in the chamber and supplies the amount of wash aid required for the single dishwashing cycle.

29. The bulk wash aid dispenser according to claim 28 and further comprising a spray nozzle located within the housing to direct liquid spray into the chamber to effect the dispensing of the bulk wash aid stored therein.

30. The bulk wash aid dispenser according to claim 28 wherein the bulk wash aid carrier comprises an insert opening of a predetermined shape to permit the insertion of a bulk supply of wash aid having a configuration corresponding to the predetermined shape of the insert opening.

31. The bulk wash aid dispenser according to claim 30 wherein the insert opening is one of a tri-lobe or a D-shape configuration.

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126 32. 33. The bulk wash aid dispenser according to claim 30 wherein the bulk wash aid carrier comprises a second insert opening having of a second predetermined shape.

33. 34. The bulk wash aid dispenser according to claim 30 and further comprising a cartridge containing a bulk supply of liquid wash aid, with the cartridge being placed within the bulk wash aid storage area.

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34. ~~35.~~ The bulk wash aid dispenser according to claim ~~34~~ and further comprising a pump fluidly coupled to the cartridge for dispensing the liquid wash aid from the cartridge.

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35. ~~36.~~ The bulk wash aid dispenser according to claim ~~35~~ wherein the bulk storage area is divided into a solid wash aid area and a liquid wash aid area.

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36. ~~37.~~ The bulk wash aid dispenser according to claim ~~36~~ wherein the spray nozzle located in the solid wash aid area and the pump is located in the liquid wash aid area.

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37. ~~38.~~ The bulk wash aid dispenser according to claim ~~36~~ wherein the dispenser door comprises a first door element for selectively covering the solid wash aid area and a second door element for selectively covering the liquid wash aid area.

38. ~~39.~~ The bulk wash aid dispenser according to claim 28 and further comprising a cartridge containing a bulk supply of liquid wash aid, with the cartridge being placed within the bulk wash aid storage area.

39. ~~40.~~ The bulk wash aid dispenser according to claim 39 and further comprising a pump fluidly coupled to the cartridge for dispensing the liquid wash aid from the cartridge.

46. ~~41.~~ A bulk wash aid dispenser for an automatic household dishwasher for washing utensils in accordance with a user selected dishwashing cycle, comprising:  
a housing defining a bulk wash aid storage area for a block of solid wash aid; and  
a key provided on the housing such that only blocks of solid wash aid having a  
5 shape complementary to the key can be received within the bulk wash aid storage area.

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~~41. 42.~~ The bulk wash aid dispenser according to claim 41 and further comprising a insert opening to the bulk wash aid storage area, and the insert opening has a predetermined shape that forms the key.

~~42. 43.~~ The bulk wash aid dispenser according to claim 42 wherein the insert opening has a multi-lobe configuration.

~~43. 44.~~ The bulk wash aid dispenser according to claim 43 wherein the multi-lobe configuration is a tri-lobe configuration.

~~44. 45.~~ The bulk wash aid dispenser according to claim 42 wherein insert opening has a D-shape configuration.

~~45. 46.~~ The bulk wash aid dispenser according to claim 41 and further comprising a block of solid wash aid having a shape that is complementary to the key.

~~46. 47.~~ The bulk wash aid dispenser according to claim 41 and further comprising a dispenser door moveably mounted to the housing for movement between an opened position and a closed position to provide access to the bulk wash aid storage area.

~~47. 48.~~ The bulk wash aid dispenser according to claim 47 wherein the key is carried by the dispenser door.